



## Case Report

### Crossed fused Ectopic Kidney-a Case Report

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#### Abstract

We present a case of crossed-fused ectopic left kidney in a young man who came with right-sided abdominal pain for about 5 months. Crossed-fused ectopic kidney is often associated with other congenital anomalies, especially in the urinary tract. Our patient had two anomalies-an anomalous placement of renal pelvis (laterally in the orthotopic kidney), and a high up caecum, which was an asymptomatic associated gastrointestinal tract anomaly.

TAJ 2003; 16(2): 79-81

#### Introduction

Crossed-fused ectopic kidney is a rare congenital anomaly. It is remarkable for its associated anomalies in the urogenital tract and other systems. Usually it is asymptomatic, but commonly the presenting feature is an abdominal lump. Renal ectopia may present diagnostic problem when acute disease develops in the kidney and there is always a danger that an unwary surgeon may be tempted to remove it as an unexplained mass<sup>1</sup>.

#### The case

Md. M, a 28 year old cultivator presented with the complaints of pain in the right side of his abdomen for 5 months. The pain used to be more discomforting during working or walking; and less so or even absent while lying down. He had no urinary trouble, fever or any other significant complaint. He was always in good health before this pain.

On physical examination he was found to have a good health. He was not anaemic and his blood pressure was normal, examination of the abdomen revealed a mass in his right lumbar region. The mass was about 12 cm vertically and 10 cm transversely. It was mobile and was slightly tender. His external genitalia were normal. Examination of the chest, cardiovascular, and skeletal system did not reveal abnormality.

The lump was suspected to be bowel mass. However, ultrasonographic study of the abdomen reported that the left kidney was absent and the mass in question was the right kidney.

On further investigations, his routine blood counts, blood sugar level and serum creatinine levels were within normal limits. Chest x-ray was normal. Intravenous urography showed-(a) Crossed fused ectopic left (photograph 1). The ectopic kidney was fused to the lower pole of the right one. (b) Both the right and the left renal pelves were bifid. The ectopic left pelvis was

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situated on the medial aspect, and the left orthotopic right one on the lateral aspect, of the fused renal mass. (c) The left ureter crossed the midline to reach the other side. The right ureter made a wide right turn, crossed the iliac crest at about its middle and then descended down. (d) The upper 1/3rd of the left ureter and upper 2/3 of the right ureter were visualized. Slight calyceal and upper ureteric dilatation were noted in the ectopic unit. There was no ureterocele.

Due to lack of facilities, the terminal part of the ureters could not be investigated for vesico-ureteric reflux or ectopic termination.

A barium enema x-ray of the colon was done to determine any relationship of the palpable mass with the colon. Incidentally it was found that the caecum was high up (Photograph 2). The patient was carefully inquired and clinically examined to find if tuberculosis or otherwise could be the cause of high position of the caecum, but no such clue could be found.

## Discussion

Crossed-fused ectopic kidney is a relatively unusual congenital anomaly. Bilateral crossed ectopia is considered to be the rarest form<sup>2</sup>. Another rarest form is ectopia is even a solitary kidney<sup>3,4</sup>; a little more than only 26 such cases have been probably reported till date<sup>5</sup>. The ectopic kidney may not be fused<sup>6</sup>, but fusion is 8 times more common than non-fusion<sup>7</sup>. Crossed ectopic kidney may be discovered by chance<sup>8</sup>. Crossed ectopia may be associated with Turner syndrome<sup>9</sup>.

Various congenital anomalies with the urogenital system have been described. These are: Multicystic dysplasia in a fused or unfused crossed kidney<sup>7,10</sup>, ureterocele<sup>11</sup>, patent urechus<sup>3</sup>, hydronephrosis, ectopic ureteral orifice, vesico-ureteral reflux, vaginal agenesis<sup>12</sup>, hypospadias<sup>6</sup> etc. The orthotopic kidney may also be affected by anomalies such as multicystic dysplasia<sup>12</sup>.

Various cardiovascular anomalies such as dextro-cardia, abdominal aortic and multiple iliac aneurysm<sup>13</sup>, Takayasu's arteritis (probably coincidental)<sup>14</sup>, duplication of vena cava and

anomalous origin of renal artery along with an incidence of seminoma<sup>15</sup>, have been described. Anomalies of the gastrointestinal system including annular pancreas<sup>16</sup>, and of the skeletal system (CDH, Club foot) has also been reported. Our patient had laterally placed pelvis in the orthotopic kidney, bifid pelvis in both renal unites and a high-up caecum without gross malrotation of the gut. Though bifid renal pelvis can be guessed as a related anomaly, reverse position of the pelvis and a high-up caecum could not be found in the literatures. Variable configurations of crossed-fused kidneys can be interpreted as resulting from different degrees of impaired rotation as well as the ectopia itself<sup>17</sup>. Colonic malposition is probably one of the rarest associations.

Ultrasonogram could not detect the ectopia and fusion anomaly of our patient. Bowel occupying the contra lateral renal fossa can mimic mass or kidney and lead to confusion. A crossed-fused ectopic kidney can mimic a single kidney with duplicated system or a kidney with a renal mass<sup>18</sup>. On the other hand, even antenatal ultrasonography has diagnosed urinary tract anomalies including renal agenesis, ectopic kidney and hypoplastic kidney, and has been concluded to be a very useful diagnostic tool<sup>19</sup>.

The typical presentations of a cross-fused ectopic kidney are pain, asymptomatic abdominal mass, and symptoms of urinary tract infection of urolithiasis. Our patient presented with only abdominal pain experienced during walking or working and without any complaint of fever or dysuria. This suggested that pain was really a dragging pain of the mobile kidney, and not probably due to any infection or obstruction in it.

We suggest that management of such patient should be conservative. Surgery should be reserved for specific complications like lithiasis or obstruction. Our patient is now on an expectant management. Nephropexy will be considered for continued symptoms. If any other specific complication arises, more specific measures will be undertaken.

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